

Chapter 7

The social mathematics of the Marquis de Condorcet

Condorcet and probability theory

Condorcet was, 200 years ahead of his time, one of the founders of modern probability theory. Much of it was not understood in his time. Two mid-20th century scholars rescued it. G.-G Granger's remarkable (1956) dissertation was the first scholarly work to understand what he called Condorcet's *mathématique sociale*. Duncan Black (1958) was the first Anglophone to understand Condorcet. I will show in this chapter that Jefferson, with no formal mathematical training, remarkably understood a great deal more of what Condorcet was saying than did many of Condorcet's own contemporaries in the European academies of science (Daston 1988; McLean and Hewitt 1994). For Condorcet, social mathematics was the key to understanding society, just as mathematical probability was the key to understanding physics, epidemiology, and demography, to name only three of the sciences that were advancing by leaps and bounds.

Jefferson had little formal education in mathematics. Anything he picked up would probably have been from the *partie quarrée* in Williamsburg graced by William Small and Governor Fauquier. In this section I aim to show, however, that he was an intuitive mathematician who understood more of Condorcet's *mathématique sociale* than has been generally recognized.

Jefferson and Condorcet both believed that science must banish human misery and superstition. Condorcet coined the term 'sciences morales et politiques'; Jefferson may have been the first to

translate the latter as *political science*. The genealogy of the phrase ‘political science’ in English begins with David Hume, one of whose essays is entitled “That politics may be reduced to a science” (Hume 1748). As Adair (1957; 1998: 132-51) showed, Hume’s thinking was a powerful influence on Madison, although not directly on Jefferson. Madison, Jefferson, and Hamilton were all political scientists (McLean 2006b: 112). The mainspring of the moral and political sciences, according to Condorcet, was probability. The developing theory of probability drove the new actuarial science and made stable insurance contracts possible.

The theory of probability had originated in the century and a half before Condorcet, mostly by French-speaking mathematicians, writing in French or Latin, and communicating via the European network of scientific academies. The sequence begins with Blaise Pascal (1623-1662) and Pierre de Fermat (1607-1665), and continues with the remarkable Bernoulli dynasty, including (but not limited to) Jacob (1654-1705), Nicholas (1687-1759), and Daniel (1700-82). The most important Anglophone contributions came from William Petty (1623-1687) and Thomas Bayes (1702-1761).

The history of probability up to 1785 is a vast subject, far too big to describe here (see Hacking 2001, 2006). The theory began with seemingly inconsequential questions such as *how do we calculate the probability that each player will win an incomplete game of chance such as throws of dice?* By Condorcet’s time, the most important application was to actuarial tables: that is, predictions of life expectancy. To get accurate tables, you first had to record population accurately (Petty was a pioneer), and then calculate for each class, gender, and so on, the

probability that they would still be alive at some time in the future. If actuarial tables are reliable, life insurance becomes possible. If not, either insurers or insured, or both, lose a lot of money.

The next advance was made, independently, by Thomas Bayes and P.-S de Laplace. Bayes' paper 'An Essay towards Solving a Problem in the Doctrine of Chances' (Bayes 1763) was published posthumously, having been edited and communicated to the Royal Society by one of Jefferson's radical friends, the Welsh mathematician and political theorist Richard Price (for whom see Holland 1968; Thomas 1992). In modern terminology, Bayes' Theorem determines *posterior probability* of an event. It is used in cases where we need to guess the probability of an unknown outcome. The simplest version of the formula is

$$P(\text{Hypothesis} \mid \text{Evidence}) = P(\text{Hypothesis}) \times (P(\text{Evidence} \mid \text{Hypothesis}) \div P(\text{Evidence}))$$

where the vertical bar | means 'given that' or 'conditional on'. So, in words, the theorem calculates the probability of a hypothesis (e.g., that a person who has been subjected to a random blood test has actually ingested an illegal drug) given that the blood test indicates the presence of the drug. Let us suppose that the test is 95% accurate, meaning that 95% of the time, it shows a true positive result for someone using the drug, and 95% of the time, it shows a true negative result for nonusers of the drug. Therefore, for 5% of drug users it shows a false negative, and for 5% of non-drug users it shows a false positive.

Next, assume 0.5% of the population are known to be users of this the drug. In the formula, that is $P(\text{Hypothesis})$. The following calculation determine the posterior probability the person is actually a user of the drug.

$$P(\text{has drug} \mid \text{has tested positive}) = P(\text{is a drug user}) \times (P(\text{has tested positive} \mid \text{has drug}) \div P(\text{has tested positive}))$$

Remember that $P(\text{has tested positive})$ is 95% for the 0.5% of the population who are users (viz., the true positives) + 5% for the 99.5% of the population who are not (viz., the false positives).

Plugging in the numbers in this toy example we get:

$$P(\text{has drug} \mid \text{has tested positive}) = .0005 \times .95 \div (.0005 \times .95 + .05 \times .995) = 0.050225$$

In other words, Bayes' Theorem shows that only about 1 in 20 of those who test positive for the drug actually have the drug.

Of course this is a silly example, but one that random drug testers and courts should understand better than they do.

In previous work (McLean and Urken 1992, 1995; McLean and Hewitt 1994), my coauthors and I have tried to establish how much Jefferson came to understand of Condorcet's revolutionary social mathematics. I try to give a non-technical summary here. Condorcet developed his revolutionary ideas in his enormous *Essai sur l'application de l'analyse à la probabilité des*

décisions rendues à la pluralité des voix (Essay on the application of the analysis to the probability of majority decisions, 1785). Even to understand the title one has to be quite deeply into 18th-century mathematics. The *Essai* has two aspects: an application of the theory of probability and the first axiomatic treatment of social choice.

In probability theory, Condorcet uses a version of Bayes' Theorem proposed by his colleague P.-S de Laplace. We do not know whether Laplace knew of Bayes's work or whether he came independently to the Bayesian system which he published in full in 1814 (Laplace 1814). But we know that Condorcet had him admitted to the Academy of Sciences in 1774 after rebuffs from its previous secretary Jean d'Alembert, and that Laplace immediately started publishing a series of papers on Bayesian probability (Stigler 1986; Daston 1988). . Given their closeness, it is right to consider the main argument of the *Essai* of 1785 as an application of Bayes' Theorem.

Condorcet's jury theorem assumes that each of a number of jurors has formed an opinion about the unknown prior (either that the accused has committed the crime or that he has not). He uses the notation v (for *vérité*) for the probability that a juror has correctly estimated the prior, and e (= *erreur*) for the probability that he is mistaken. Obviously $v + e = 1$. In the simplest version, v – the probability that any one juror is correct – is assumed to be the same for all jurors. Condorcet uses h for the number of votes in the majority and k for the number of votes in the minority, and hence $h-k$ is the size of the majority. Then, by simple application of the Bayes-Laplace theorem, the posterior probability can be calculated. The posterior probability here is the probability that the majority judgment is correct. The formula may be expressed as

$$P(\text{majority is correct}) = v^{h-k} / (v^{h-k} + e^{h-k})$$

In words, the probability that the majority judgment is correct is the probability v for each juror to the power of the majority, divided by the sum of that plus the probability e for each juror to the power of the majority. Readers do not need to grasp the intricacies to grasp the implication Condorcet drew, which is this: even if the average probability of an individual's judgement of the truth of a proposition is only just over $\frac{1}{2}$, the probability of the majority being correct rises dramatically with the number of voters and the required majority. (There are now many expositions of the jury theorem, see, e.g., List and Goodin 2001).

Condorcet and social choice

In one of its many facets, Condorcet's jury theorem is an attempt to axiomatize Jean-Jacques Rousseau's conception of the general will. The central argument of Rousseau's *Du contrat Social* (Rousseau 1973) is that politics should always seek to enact the *volonté générale* ('General Will'). But Rousseau's own attempt to explain how the General Will is to be calculated is either trite or self-contradictory, and leads fatally easily to politicians' claims that they embody the general will or the will of the people. The persecutors of Condorcet and the other liberals who were killed in the French Revolution habitually announced that they represented the will of the people. Modern autocrats and populists often do the same.

Condorcet's idea was much subtler. This was a new justification for majority rule, which excited the democratic side of Jefferson. It spurred Condorcet to produce the first axiomatic treatment of voting and majority rule. It informed his attitude to justice and human rights. It governed his

social mathematics for the rest of his life. To increase the probability of getting a correct judgment you can either increase $(h - k)$: i.e., increase the required majority size, or increase v – i.e., educate each voter to improve his level of enlightenment.

However, and rather awkwardly, Condorcet also made the revolutionary discovery of what we now call majority rule ‘cycles’ (the term was coined by Lewis Carroll when he rediscovered them independently of Condorcet). He founded the discipline of social choice, i.e., the axiomatic study of choice systems such as elections. What he discovered was awkward for his own probability-based justification of majority rule. When there are at least three voters and at least three options, it is always possible that there is a majority for A over B , a majority for B over C , and a majority for C over A , all at the same time (Table 7.1). This is profoundly disturbing for majority rule. When Condorcet’s contemporary Jean-Jacques Rousseau, whom Condorcet, rightly, did not rate as a mathematician, spoke of the *volonté générale* (general will), what could that mean in the case of a cycle?

[Table 7.1 here]

Jefferson bought a copy of the *Essai*, and either he or Mazzei sent it to Madison to send on to Edmond Randolph, who was the leader of the Virginia delegation at the Constitutional Convention and later Washington’s first Attorney-General. Madison received it, and nine days later passed it on to Randolph. (Madison to Randolph Aug. 2 1788; same to same Aug. 11. 1788; *Founders Online Founders Online, National Archives*,

<https://founders.archives.gov/documents/Madison/01-11-02-0148> and
<https://founders.archives.gov/documents/Madison/01-11-02-0160>).

At first glance it is hard to believe that any out of Jefferson, Madison, or Randolph understood it. Hardly anybody did even in the *Académie des sciences* of which Condorcet was the permanent secretary. In earlier work, we have shown that only three contemporary mathematicians really glimpsed what Condorcet was saying about social choice: one in Geneva (S.-F Lhuilier), one in Spain (I. Morales), and one of Condorcet's successors at the Institut de France (P.C.F. Daunou: McLean and Urken 1995: 151-276). Notably, neither of his great contemporaries in the Académie des sciences – Laplace and Lagrange (two of the greatest mathematicians of the 18th century) - showed any understanding of the social choice component of the *Essai*, although Laplace made an important clarification of the probability part.

In 1788, Condorcet produced a 'lay summary' of this work in a long essay *sur les assemblées provinciales*. The assemblies that it discusses never took place because the government of Louis XVI changed its mind. This essay contains the first description of what was named, when reinvented by Kenneth Arrow in 1951, the axiom of Independence of Irrelevant Alternatives' (IIA). The IIA condition states that the social ranking of *A* and *B* should not be affected by changes in the ranking of *A* and *C*, or *X* and *Y*. Jefferson owned a copy of this long essay and he sent Madison "a work on government by the Marquis de Condorcet 2v. 8vo" which is probably the *Essai sur les assemblées provinciales*, it being the only one of Condorcet's publications, as far as we know, that came out in two octavo volumes. (TJ to JM Jan. 12 1789: *PTJ* 14:437; JM to TJ May 9 1789: *PTJ* 15:114). Neither of them comments on the contents of the book, so both

of them missed the clearest opportunity before Arrow to understand what Condorcet was on about. Arrow himself, when shown our draft translation of the relevant part of the essay, at first conceded that he had been scooped by 175 years, although he then pointed out, correctly, that Condorcet does not formalize his Independence axiom (personal communication). If Arrow, a Nobel Laureate mathematical economist, had to reinvent social choice independently of Condorcet, is it realistic to suppose that Jefferson had a glimmering of it?

How much did Jefferson understand?

Some years ago, Arnold Urken and I examined all Jefferson's known surviving copies of Condorcet's works at the Library of Congress (some were lost in a fire in 1851). Jefferson had a copy of Condorcet's posthumously published testament to Enlightenment optimism, his *Esquisse d'un tableau des progrès de l'esprit humain*. (Condorcet 1795). Jefferson objects to Condorcet's claim that France was the first country to achieve religious freedom. No, says Jefferson: Virginia was first. But he wrote nothing apart from his characteristic countersigning of the signatures (see Chapter 1) on his copies of Condorcet's work on voting theory. (McLean and Urken 1992; McLean and Hewitt 1994.

If there is scant evidence that either Jefferson or Madison understood Condorcet on social choice, what about Condorcet on probability? The best evidence that Jefferson understood Condorcet's probabilism is in his letter to Madison of Sept. 6 1789, frequently anthologized as 'The earth belongs in usufruct to the living'. Jefferson derives his data from mortality tables; his

formulae and modes of reasoning from Condorcet. Following are, first, the probabilistic parts of TJ's argument; second, the parallel passage in Condorcet.

I set out on this ground, which I suppose to be self evident, "that the earth belongs in usufruct to the living": that the dead have neither powers nor rights over it.... [L]et us suppose a whole generation of men to be born on the same day, to attain mature age on the same day, and to die on the same day.... Let the ripe age be supposed of 21. years, and their period of life 34. years more, that being the average term given by the bills of mortality to persons who have already attained 21. years of age.... A generation coming in and going out entire ... would have a right in the 1st year of their self dominion to contract a debt for 33. years, in the 10th for 24. in the 20th for 14. in the 30th for 4. whereas generations, changing daily, by daily deaths and births, have one constant term, beginning at the date of their contract, and ending when a majority of those of full age at that date shall be dead. The length of that term may be estimated from the tables of mortality.... Take, for instance, the tables of M. de Buffon.... Of those living at any one instant of time, one half will be dead in 24. years 8. months... And the half of those of 21. years and upwards living at any one instant of time will be dead in 18. years 8. Months, or say 19. years as the nearest integral number (*PTJ* 15: 384-98, quoted at 392-4.

Les bornes de la durée des lois constitutionnelles ne doivent pas s'étendre au delà d'une génération. En effet, on peut regarder comme unanimement reçue toute loi acceptée par la pluralité de la nation, parce qu'on peut supposer que, vu la nécessité de recevoir la loi ou de la rejeter, et celle de préférer l'opinion du plus grand nombre, ceux qui rejetaient

une loi proposée ont cependant formé le vœu de s’y soumettre, si elle était conforme à l’opinion de la pluralité. Ainsi, l’approbation donnée à une loi, par cette espèce d’unanimité, peut s’étendre à tout le temps où ceux qui existaient à cette époque continuent de former la pluralité.... Mais cette approbation cesse d’avoir la même valeur lorsque ces individus ne forment plus la pluralité de la nation. La durée de toute loi constitutionnelle a donc pour véritable limite le temps nécessaire pour que la moitié des citoyens existants au moment de l’acceptation de la loi ait été remplacée par de nouveaux citoyens; espace facile à déterminer, et qui est de 20 ans environ, si la majorité est fixée à 21 ans; de 18, si elle est fixée à 25. (Condorcet, *Sur la nécessité de faire ratifier la constitution par les citoyens*, 1789, in OC IX 413-30, quoted at p. 415. My italics. Condorcet spells out the numbers in this passage).

The passages are so close that they it seems highly likely that they written in collaboration. In another example, Jefferson took a very cheerful view of Shays’ Rebellion (an uprising of western farmers against the government of Massachusetts in 1786-7: see, e.g., Richards 2002). He pointed out insouciantly that

We have had 13. states independant 11. years. There has been one rebellion. That comes to one rebellion in a century & a half for each state. What country before ever existed a century & a half without a rebellion? ... What signify a few lives lost in a century or two? The tree of liberty must be refreshed from time to time with the blood of patriots and tyrants. It is it’s natural manure (TJ to W. S. Smith, Nov. 13, 1787; *PTJ* 12: 355-7; TJ’s punctuation; cf also TJ to Abigail Adams, Feb. 22 1787, *PTJ* 11: 174).

Jefferson's dubious statistical inference comes direct from Condorcet, who had written,

Depuis onze ans que les treize gouvernements américains subsistent, un seul a vu naître un soulèvement, et c'est celui dont je viens de parler. Supposons que la même chose arrivât successivement dans les autres Etats après un même espace de temps, il faudrait pour qu'il en arrivât un dans chacun, un laps de cent quarante-trois années. Dans quels autres gouvernements les soulèvements ont-ils été aussi rares? (OC VIII:44).

The only difference is that Condorcet's arithmetic is more exact than Jefferson's.

Condorcet, Jefferson, slavery and economics

Analysis of some further documents throws new light on the relationship between Jefferson and Condorcet. Although none derives directly from Condorcet's social mathematics, they all demonstrate that Jefferson's links with him in Paris were closer than has been previously shown. The documents are: Condorcet's anonymous publication *Sur l'esclavage des nègres* (1781, revised 1788); an appendix to the 1788 edition of the same pamphlet; and a letter from Jefferson to Secretary of State John Jay about the first stages of the French Revolution, enclosing a denunciation of the Swiss financier Jacques Necker who was believed to be working wonders at the French finance ministry. The documents are reproduced in appendices to this chapter.

Sur l'esclavage des nègres was purportedly published in Neuchatel, Switzerland by an anonymous Protestant pastor calling himself Joachim Schwartz. Fake publications of this sort were a common device to get around French censorship, but the identity of Pastor Schwartz

became known at least by 1788, when the pamphlet was republished with an appendix about the US Constitution. Jefferson bought two copies of the 1788 edition. However, I show that it was the first edition that he started to translate, but broke off part way through chapter 2 of Condorcet's 12 chapters.

Jefferson's fragmentary translation, entirely in his own hand, is fascinating. Although automatic translation has made great strides recently, Jefferson clearly beats Microsoft Translator.

Here is the original, from the 1781 edition

Mes Amis,

Quoique je ne sois pas de la même couleur que vous, je vous ai toujours regardé comme mes frères. La nature vous a formés pour avoir le même esprit, la même raison, les mêmes vertus que les Blancs. Je ne parle ici que de ceux d'Europe ; car pour les Blancs des Colonies, je ne vous fais pas l'injure de les comparer avec vous ; je sais combien de fois votre fidélité, votre probité, votre courage ont fait rougir vos maîtres. Si on allait chercher un homme dans les Isles de l'Amérique, ce ne serait point parmi les gens de chair blanche qu'on le trouveroit ([Condorcet] 1781)

Here is Jefferson's opening:

Tho' not of your colour, my friends, I have ever considered you as my brethren. Nature has endowed you with the same genius, the same judgment, the same virtues as the Whites. I mean the Whites of Europe, for I would not insult you by a comparison with those of the islands. I know how often your fidelity, your probity, your firmness have put your masters to the blush. Were we to 'seek a man' in the Islands of America, it is not among the Whites we should find him (*PTJ* 14: 494).

And here is Microsoft Translator (accessed on Nov. 15. 2023)

My Friends: Although I am not of the same colour as you, I have always looked upon you as my brothers. Nature has trained you to have the same mind, the same reason, the same virtues as the white people. I am speaking here only of those in Europe; for as to the whites of the Colonies, I do not do you the injury of comparing them with you; I know how many times your fidelity, your probity, your courage have made your masters blush. If a man were to be sought in the islands of America, he would not be found among the white-fleshed people

By being less literal, Jefferson is more fluent and conveys Condorcet's intention better. *Genius* and *judgment* are better than *spirit* and *reason* as renderings of *esprit* and *raison*. And Microsoft's *white-fleshed* people makes one think of peaches. There is, though, one oddity in this opening paragraph. Jefferson translates Condorcet's *Blancs des colonies* as *Whites of the islands*. It is hard to know whether to make much of this. Jefferson and Condorcet were talking

about the same places: the French Caribbean colonies, the biggest and most notorious of which was then known as *St-Domingue* (Haiti). They had a common frame of reference.

The proof that Jefferson translated the first (1781) not the second (1788) edition comes in a Condorcet footnote. Condorcet intends to comment on the Latin word *Leno*, which he says originally meant ‘slave merchant’ but more commonly came to mean ‘brothel-keeper, pimp’. However, the 1781 typesetter misread *Leno* as *Le nom*, making Condorcet’s point unintelligible. TJ’s translation follows the 1781 edition and therefore also obscures Condorcet’s intended point. The fault lay with Condorcet’s Swiss typesetter, not with either Condorcet or Jefferson. The editors of *PTJ* used the 1847 edition of Condorcet’s collected works, which reproduces the 1788 publication. Noting that Jefferson bought two copies of that edition from his Paris bookseller Froullé in August, they date his translation to some point after that, possibly concurrent with a letter to Edward Bancroft on slavery from January 1789 (*PTJ* 14:498). The work could actually have been done at any time after Jefferson’s arrival in Paris.

In summary, Jefferson’s effort gives the lie to the over-simplified claim that he was not fluent in French. He certainly did not enjoy speaking it; and writing at leisure is easier than listening (let alone than simultaneous translation). The translation is “entirely in TJ’s hand and, since it has numerous deletions and interlineations, evidently translated by him in the course of transcription.” (*PTJ* 14:498, editorial note). He understood perfectly what Condorcet was talking about.

Perhaps too perfectly. Is it significant that he stopped when he did, part way through chapter 2 of 12? In later chapters, Condorcet deals with:

- Whether it is possible to cultivate the colonies without slave labor (chs. 3 and 6; he says yes)
- Whether legislators have a moral responsibility to repeal unjust laws (ch.5; he says yes);
- The ‘incontinence, avarice and cruelty’ of European settlers towards female Black slaves (ch.6);
- Whether, once freed, Blacks would have the same achievements as Whites (ch.6: he says yes).

Jefferson, who had recently authorized the English edition of *Notes on Virginia*, with its (to us) notorious comments on Black talents in Queries XIV and XVIII, might have suffered cognitive dissonance if he had continued his translation.

Condorcet’s 1788 postscript is interesting and important. It appears as an appendix to this section. The draft US Constitution was agreed by the Philadelphia convention in September 1787. The Framers had succeeded in keeping their discussions completely secret, so that nobody in Europe knew of its contents until newspaper reports and letters started to arrive. The Convention wrapped up on September 17. Madison quickly tried to send the agreed text with his comments to Jefferson, but it was delayed for several reasons, including the courier’s fear of English privateers in the Atlantic. It was finally dispatched on October 24th Jefferson’s copy arrived on December 19th, and his critical reply to Madison was sent the following day (*PTJ* 14: 269-283 and 438-442). Jefferson’s letter of November to W.S. Smith, quoted above, thanks him

for getting details of the constitution draft from his father-in-law John Adams. But it is ambiguous as to whether Smith or Adams actually had a full text to send him.

The second edition of the *Réflexions* was produced by Froullé, not later than 2 August 1788, when Jefferson bought his two copies (*PTJ* 14:498.) Therefore, allowing for time to print (shorter in the 18th century than now!), Condorcet had probably only a few weeks to review the Constitution and set out his thoughts. This is one of several facts that points to close collaboration among four people in Paris with a common aim: Jefferson, Condorcet, Mazzei, and Chastellux.

Filippo Mazzei (1730-1816) was probably Jefferson's most annoying neighbor. He emigrated from Italy to Virginia in 1773. Jefferson set him up at his plantation at Colle, adjacent to Monticello, the following year. (There is still a street sign there at Simeon Market, the junction of VA 53 and VA 732). Mazzei's plan was to form a company for producing wine, oil, and silk at Colle. Jefferson was one of the subscribers, as was the last royal governor of Virginia, Lord Dunmore (*PTJ* 1:156-158). The company failed, as did other similar efforts around Monticello in Jefferson's time. However, Mazzei collaborated closely with Jefferson for some years. He was one of the recipients of Jefferson's rough draft of the Declaration of Independence (*PTJ* 1:415). He then went to secure a loan for Virginia from the Grand Duke of Tuscany. Returning in 1783, he found that the Virginia Assembly had forgotten about his mission and refused to reimburse him (Marchione 1975: 20-23; Scalia 1980: 276). He then left Colle, but it stayed in his (step-)family until 1792. Mazzei meanwhile moved to Paris (and later to Poland) before returning to Italy. He never revisited Virginia, despite threatening to.

Although a political ally, Jefferson found Mazzei grating from early in their relationship, writing to Madison in 1784:

I am induced to this quick reply to ... your favour of Feb.17.... by an alarming paragraph in it, which is that **Mazzei** is coming to Annapolis. I tremble at the idea. I know he will be worse to me than a return of my double quotidian head-ach.... Could you not... divert him from coming here? A consulate is his object, in which he will assuredly fail. But his coming will be attended with evil. He is the violent enemy of **Franklin** having been some time at Paris. From my knolege of the man I am sure he will have employed himself in collecting on the spot facts true or false to **impeach** him. (TJ to J Madison 16 March 1784, PTJ 7:30; the words Mazzei, Franklin, and impeach are encoded in a cypher which Jefferson and Madison used to exchange confidential messages)

However, annoying people could be helpful to Jefferson's job of improving the USA's image in France. Mazzei's *Recherches historiques .. sur les Etats-Unis* were published in four volumes 'A Colle, / et se trouve A Paris / chez Froullé' (facsimile in Marchione 1975: 308). The book was reviewed in a long puff-piece by Condorcet in the *Mercure de France* of 23 February and 1 March 1788 (partial facsimile in Marchione 1975: 316). Mazzei started writing, in Italian, in 1786 and by 1788 had had his MS translated into French, and arranged for an important supplement by Condorcet to be added (*Lettre d'un bourgeois de New Haven à un citoyen de Virginie*), which I discuss elsewhere. The *Recherches* were not translated into English until 1975

(Marchione 1975; Scalia 1980), and then only in part. But the intended audience was in France, not the Anglophone world.

Jefferson's spin-room comprised an Italian and three Frenchmen. The Italian was the erratic Mazzei. The Frenchmen were the eminent Condorcet, permanent secretary of the royal Academy of Science; the Duc de la Rochefoucauld, and Chastellux, member of the Académie française, and liaison officer between the French army and Washington during the last period of the War of Independence (until his death in October 1788). Condorcet's efforts included the puff for Mazzei and the *New Haven Letters* mentioned above. Chastellux' was his *Travels in North-America, in the years 1780, 1781, and 1782*, published in English and French in 1786-7. The London publication (Chastellux 1787) is 'Translated from the French, by an English Gentleman, who resided in America at that period'. (The English gentleman was a pro-American hack journalist called George Grieve: Chastellux/Rice 1963: I, 30).

All three publications (or four, counting Condorcet's 1788 Postscript) aimed to present the USA, as it could now be called, in a favorable light, against the strictures of various detractors, including:

- English propagandists;
- followers of Buffon who thought that Americans and their fauna were degenerate;
- disappointed French traders who knew that the states were failing to pay their Revolutionary War debts and that merchants were sometimes reviving their English trading networks rather than starting French ones;

- and the *Planteurs de St-Domingue* – plantation owners in Haiti who were claiming places in the proposed provincial assemblies and Estates-General based on their land and slaves.

As part of that effort, the only part of the spin published after the text of the Constitution was received in Paris is Condorcet's 1788 postscript. It merits careful reading. It is an interesting mix of shrewd observation, wishful thinking, and optimistic spin. He claims that slavery was never legal in Massachusetts. This is incorrect, but it is true that the state supreme court had held in 1782 that slavery was inconsistent with the new state constitution in 1780 (drafted by John Adams). See <https://www.mass.gov/guides/massachusetts-constitution-and-the-abolition-of-slavery>. He claims that all the states except the Carolinas and Georgia had banned the import of new slaves. He passes on an opinion attributed to Mazzei that the reference in the Constitution to 'persons' rather than 'slaves' was due to embarrassment. There are two such references; the 'three-fifths clause' in Article I Section 2, and the non-importation clause in Article I Section 9.

When writing about slavery, Condorcet became impassioned. Despite a generally shy and gauche personality, he could explode – a friend nicknamed him 'le volcan couvert de neige' – the snow-covered volcano (Baker 1975: 23-26). So it is in this postscript, as in the whole *Réflexions*.: such as his volcanic coinage 'apologists for infamous brigandage'. He ends with a puff for the *Société des amis des noirs*, one of whose leading lights he was, and whose prime target was the *planteurs de St-Domingue*, on whom he launched a separate attack. Condorcet's passion was probably somewhat too much for Jefferson to take, hence his failure to complete his

translation. But the timeline shows that the four musketeers were working quite closely together during 1787 and 1788.

The other document which has recently been attributed to Condorcet is attached to a dispatch that Jefferson wrote to Secretary of State John Jay on 17 June 1789, describing the initial stages of the French Revolution. The Estates-General had been called, for the first time since 1614, to consider grievances coming in from around the country. It was divided into three Estates – nobility, clergy, and commons. In its first weeks it was wholly taken up by procedural wrangle: should it vote by house (so that the two upper-class houses could outvote the third) or by head (where the Third Estate had enough numbers to outvote the other two even if they were unanimous)? Jefferson takes up the story, writing to Jay:

The fate of the nation depends on the conduct of the king and his ministers. Were they to side openly with the Commons the revolution would be completed without a convulsion, by the establishment of a constitution, tolerably free, and in which the distinction of Noble and Commoner would be suppressed. But this is scarcely possible. *The king is honest and wishes the good of his people, but the expediency of an hereditary aristocracy is too difficult a question for him.—On the contrary his prejudices, his habits and his connections decide him in his heart to support it.* Should they decide openly for the Noblesse, the Commons, after suppressing taxes, and finishing their Declaration of rights, would probably go home, a bankruptcy takes place in the instant, Mr. Necker must go out, a resistance to the tax gatherers follows, and probably a civil war. These

consequences are too evident and violent to render this issue likely. (TJ to John Jay, *PTJ* 15: 189. Italicized passage sent in code)

This was prescient. Three days later, the commons (Third Estate / Tiers-état) found themselves locked out of the chamber, so they immediately went to the tennis court next door and swore unanimously to remain in session until they had drafted a constitution. On 27 June, Louis XVI caved in and agreed to voting by head. The Estates-General had become the National Assembly.

As to the supposed ‘wonder-working’ finance minister Necker, Jefferson continued:

It is a tremendous cloud indeed which hovers over this nation, and he at the helm has neither the courage nor the skill necessary to weather it. Eloquence in a high degree, knowledge on matters of account, and order, are distinguishing traits in his character. Ambition is his first passion, Virtue his second. His judgment is not of the first order, scarcely even of the second, his resolution frail, and upon the whole it is rare to meet an instance of a person so much below the reputation he has obtained (*PTJ* 15: 189. Necker is not named in the text of the letter, but in his polygraph copy TJ wrote ‘Necker’ against this passage).

Necker was dismissed as Jefferson predicted, but popular protests including the storming of the Bastille forced the king to bring him back. Despite ministers’ confiscation of church property and issue of paper money (‘assignats’) on that property as security, the unsustainable public debts finally brought him down in 1790.

The ‘Character of M. Neckar’ is vitriolic. The editors of *PTJ* make three guesses as to the author, none of them plausible. To anyone who has read Condorcet, his authorship screams from the page. The first giveaway is the author’s praise of the only two finance ministers whom Condorcet approved of, Turgot and Calonne, in contrast to the vituperation aimed at two others, Terray and Necker. Condorcet had loved Turgot (the word is not too strong: Condorcet 1786) and hated Necker from even before Turgot’s sacking in favor of Necker in 1776. Jefferson did not own Condorcet’s *Vie de Turgot* but he owned another life of Turgot, by P.S. Dupont de Nemours (Dupont 1782; TJ to Robert Livingston Oct. 6 1787 in *PTJ* 12: 213).

Condorcet was not the only Paris acquaintance of Jefferson to have loved Turgot and hated Necker. But in a fine piece of detective work, Rieucan and Sabbagh (2022) have shown that the very phrases used in the *Caractère* had appeared earlier both in Condorcet’s published work and in his private letters. The former includes his *Vie de Turgot* (in Arago and O’Connor 1847, Vol. V) and *Réflexions sur le commerce des bleds* (in Arago and O’Connor 1847 : XI, 99-252). The latter includes numerous letters to Turgot and to his friends the Suard, although Mme Suard destroyed some of Condorcet’s most vitriolic comments on Necker (Henry 1882; Badinter 1988, Rieucan and Sabbagh 2022).

Several questions remain.

- Why did Jefferson cover his friend’s tracks by transcribing the document?
- How valid were Condorcet’s criticisms of Necker?

- How far did Jefferson share Condorcet's view?
- How does this play into Jefferson's fight with Treasury Secretary Alexander Hamilton when he returned to the USA?

The first question is the most intriguing but probably the least important. Jefferson's transcription contained one obvious mistake (*bailles* for *tailles*) and omitted accents in a cavalier way. It was not that Necker would have sued Condorcet for libel. He had been saying things that were just as rude about Necker for many years. Any threat might have come not from libel but from the French government censors. But at that particular period, the chief censor, Malesherbes, was keen on the opinions of Jefferson's liberal circle being aired. One very simple possibility, not considered by Rieucan and Sabbagh (2022), is just that Condorcet's handwriting is appalling and Jefferson's is extremely readable (and distinctive – nobody who has read his hand ever mistakes it).

I agree with Rieucan and Sabbagh that the cover-up is for American rather than French reasons. Not everyone in Jefferson's American circle was as Francophile as he was. Jay was suspicious of the French, and John Adams was contemptuous of French intellectuals, calling out Condorcet in particular both in his angry annotations of the books he read, and in his evening correspondence with Jefferson (Haraszti 1952; Cappon 1959). Even Jefferson's soulmate Madison was more wary of Condorcet than Jefferson was.

Condorcet's central criticisms of Necker were undoubtedly valid. He took out unsustainable loans (enriching himself in the process according to Condorcet); his accounts did not add up; and

he did not understand the principles of free trade. A more niche objection was to Necker's work on 'the importance of religious opinions', which probably offended the atheist Condorcet more than the deist Jefferson.

Necker had come to Condorcet's and Turgot's attention for his eulogy of Colbert, the 17th-century finance minister under Louis XIV whose policy was ruthlessly both statist and mercantilist. Statism involved, for instance, creating a state glassmaking corporation (*Manufacture royale de glaces de miroirs*) to undercut Venice. Its products may still be seen in the Palais de Versailles. Mercantilism involved setting France and its colonies up as a unit for the benefit of metropolitan France, to try to ensure that France had a favorable balance of trade. Mercantilism is self-defeating (because not every country can have a favorable balance of trade). It was nevertheless popular in Colbert's time and since, and Jefferson was not exempt from its fallacies.

The fallacies were pointed out by Adam Smith in Scotland and by Turgot and Condorcet in France. They proved that free trade is in the interest of everybody except (would-be) monopolists. However, monopolists who control governments have an incentive to keep their economic rents (that is, extra returns over what they would get in a free market). And, when bread is scarce as it was in France at times in the 1770s and 1780s, it is hard to tell starving people that price control will not help them in the long run. That is what Turgot and Condorcet tried to tell them. It is no surprise that Turgot was forced out as finance minister in favor of the supposed miracle-worker Necker.

How much of the Turgot-Condorcet message did Jefferson absorb? At a superficial level at least, a great deal. Jefferson's own assessment of Necker in the Jay letter is almost a quote from Condorcet's *Caractère*. At the next level down, Jefferson certainly absorbed the message that bankers are likely out for their own good. This is one (of several) reasons why he distrusted the idea of a Bank of the United States.

Did he really understand Smith's and Turgot's arguments for free trade? Probably not in full. However, Turgot's economics derived in part from his precursor François Quesnay (1694-1774), the founder of the 'Physiocrat' school of economics. Before he turned to economics, Quesnay was a surgeon and physician. This background shaped his *Tableau Economique*, first published in 1758 and frequently republished by his followers (Mirabeau 1766; Quesnay and Du Pont 1768; Baudeau 1776).

The *Tableau Economique* was what would now be called an input-output analysis of the economy. It led Quesnay and his followers to declare that ultimately the land is the source of all wealth. Jefferson certainly lapped up this part of Physiocrat economics. He owned copies of Quesnay and Du Pont 1768 and of Baudeau 1776. The Physiocrats' view that land is the source of all wealth chimed with Jefferson's view that the farmer is the only true virtuous citizen. Turgot moved away from the Physiocrats, and Smith repudiated their views in Book IV of the *Wealth of Nations*, but Jefferson did not. Quesnay and Turgot's disciple P.-S Dupont de Nemours later moved to the USA and maintained his Paris friendship with Jefferson. His descendants founded the Dupont business and fortune. By a quirk of fate, his descendant William du Pont bought Madison's estate at Montpelier in 1901, thus helping to conserve it to the present

day, although the Dupont additions have now been removed to restore the house to the state in which Madison lived in it (<https://www.montpelier.org/learn/dupontfamily>, accessed Jan. 23 2024).

We discuss the fight between Secretary of State Jefferson and Treasury Secretary Hamilton in a later chapter. In summary, Jefferson had both good and bad reasons to object to Hamilton's Report on Public Credit and the actions he proposed. Both the good and the bad reasons were strongly influenced by his acquaintances in Paris. Furthermore, both Jefferson and Hamilton seem to have understood some of Condorcet's mathematics.

Appendix 1. *Sur l'esclavage des nègres* ([Condorcet] 1781), footnote 1 to ch. 2

Condorcet's footnote 1 to chapter 2.

[1781 : Le nom] [1788 : *Leno*] ne signifiait d'abord que marchand d'esclaves ; mais comme ces marchands vendaient de belles esclaves aux voluptueux de Rome, leur nom prit une autre signification. C'est là une suite nécessaire du métier de marchand d'esclaves : aussi, même dans les pays assez barbares pour que cette profession ne fût point regardée comme criminelle, elle a toujours été infâme dans l'opinion. (Condorcet 1781 ; 4 ; Condorcet 1788 : 4 ; Arago and O'Connor 1847 VII : 71)

TJ's translation :

* The name signified at first only a merchant of slaves, but as they sold handsome slaves to the voluptuaries of Rome, it acquired at length another signification. It is a necessary consequence of the trade of slave merchant. Accordingly this profession has been always infamous, even in those countries barbarous enough not to consider it as criminal.

Appendix 2. Condorcet, *Sur l'esclavage des nègres*, 2nd edition, Postscript.

It may be useful to present here a table of legislation in the United States relative to Black slavery.

Despite the protection given to slavery by the English government, the state of Massachusetts never authorised it: every slave introduced into that state obtained his liberty as soon as he claimed it.

Since the revolution, all the states, except the two Carolinas and Georgia, have banned the import of new slaves. South Carolina has done the same for three years only.

Pennsylvania has also enacted a law to declare free all Blacks born after its promulgation.

The Constitution to regulate the form and power of Congress, presented to the states by the convention formed in Philadelphia in 1787, stipulates that Congress may not ban slave importation before the year 1808, but that it may impose an entry tax not exceeding ten *piastres* [dollars] per head. [1]

[1] It is worth remarking that, in this constitutional project, the word 'persons' is used to designate slaves. 'The horror which the editors of this project have for a state so contrary to natural law prevented them from even using the normal term'. So says the author of the *Recherches historiques et politiques sur les Etats-Unis*, the first work to give Europe the correct

facts on these governments, and where the rights of reason and the interests of humanity are defended without exaggeration but without weakness.

All this shows that the slave trade will quickly be unanimously proscribed. Slavery in Pennsylvania cannot last beyond the death of individuals born after [sic] the law. In the eight Northern states, where there are only a few Blacks, one must hope for a similar law, or even quicker abolition. That leaves only four states. But in Virginia the most enlightened men are working ardently and constantly to prepare for gradual liberation. Slavery is regarded uniformly in the 13 states as a crime against humanity, as a stain on the glory of the friends of liberty. Now it is difficult for the private interests of slaveowners to prevail against this opinion in a country where the press is free, and where all executive actions, all legislative deliberations, and even all the proposals which are made to them, are necessarily public.

Furthermore, a society has been formed in England for the abolition of the slave trade and of Black slavery. This society, which includes members of both Houses of Parliament and even ministers, will get its way sooner or later. Bills dictated by humanity and justice, supported by reason and political health, are bound to be carried in both chambers eventually. Indeed, in the first debates on that subject, Europe has observed with indignation some English peers, members of the House of Lords, debasing themselves to the extent of protecting the slave merchants, and the apologists for their infamous brigandage, though the dignity of a Lord and his accompanying hereditary fortune would seem to exclude every sort of link between two such different classes.

France has followed England's example. In Paris there is a society whose sole object is to find ways to secure the abolition of the slave trade and of Black slavery. It has not done much so far; but the moment of its formation is auspicious. The Government has never shown a more enlightened spirit of humanity, nor more respect for the rights of the lower classes.

[Source: Arago and O'Connor 1847: VII, 138-40, collated with Condorcet 1788: 83-85. My translation]

Appendix 3. Caractere de Monsieur Neckar : TJ's transcription

La Nature donna à cet homme une passion violente pour la gloire, sans lui accorder les qualités nécessaires pour ne la chercher que par des voies droites. Elle le doua d'une imagination feconde, jointe à un talent borné; ce qui l'empêchera toujours d'approfondir les objets, de les combiner, et d'en saisir l'ensemble.

Dans Geneve, sa patrie, il avoit probablement connu l'influence des richesses sur les succes de l'ambition, sans avoir besoin de l'ecole de Paris, ou il arriva à l'age d'environ 28. ans. La raison qui le determina à quitter son pays natal, est une affaire personnelle à son frere, dans laquelle les chefs de la republique se conduisirent mal à son egard; et qui d'ailleurs, par ses circonstances pretoit au ridicule. En partant il assura sa mere qu'il feroit une grande fortune à Paris. À son arrivée, il entra, en qualité de commis, aux appointemens de 600. livres, chez le banquier Thelusson, homme dur avec ses dependans, jusqu'à l'indecence; mais le meme motif qui obligeoit les autres commis à abandonner le service de Thelusson, sembloit engager celui-ci à y rester. En supportant la brutalité de son maitre avec une resignation servile, en même tems qu'il donnoit à ses affaires l'attention la plus constante, il obtint d'être son associé. Une foule de circonstances favorables, qui ne demandoient qu'une habileté commune pour les saisir, lui etablirent une fortune d'environ 6. millions, avant qu'il entra dans l'administration.. Il dut une grande partie de sa fortune à ses liaisons avec l'Abbé Terrai, de l'ignorance duquel il profita sans scruple. Ses richesses, sa profession, sa table, une femme vertueuse, raisonnable, et instruite, lui avoient procuré la connoissance de beaucoup de personnes distinguées, parmi lesquelles etoient plusieurs hommes de lettres qui vantoient ses connoissances et son esprit.

Les principes vrais et sages que Turgot vouloit substituer aux abus de l'administration ayant été mal accueillis, il saisit cette occasion de flatter l'ignorance et la malignité, en publiant son ouvrage contre la liberté du commerce des grains. Il avoit, deux ans auparavant, publié l'éloge de Colbert; et dans l'une et l'autre de ces productions l'on voit l'homme de banque, et point du tout l'homme d'état. Son but a été de s'emparer de l'opinion publique. Il y a réussi très bien, n'ayant point été délicat dans le choix des moyens. Elevé par une cabale sourde à la direction des finances, il debuta par refuser les appointemens de sa place. Il affecta un esprit d'économie et d'austerité qui en imposa même aux nations étrangères, et montra qu'on pouvoit faire la guerre sans établir de nouveaux impôts. Du moins il s'en est vanté; mais dans la vérité ils ont été augmentés sous son administration d'environ vingt millions, partie par une augmentation secrète des tailles, et de la capitation, partie par quelques vérifications des vingtièmes, partie par la progression naturelle qu'éprouve le produit des droits sur les consommations, en raison de l'augmentation successive de la population, des richesses, et des goûts dispendieux.

Tout cela lui produisit une réputation étonnante, et sa chute la consacra. On n'a point voulu réfléchir que, dans les courts instans de son ministère, il avoit plus que doublé sa fortune. Non pas qu'il avoit pillé; il avoit trop d'esprit, et de fierté pour cette manoeuvre d'imbécille; mais en faisant les fonds de la guerre par des emprunts, et des opérations coûteuses de banque, et restant associé de la maison à laquelle il s'adressoit pour la plus grande partie de ses négociations, on n'a pas observé que ses grands principes d'économie n'étoient que du clinquant, et que les emprunts faits pour épargner les impôts ont été la source du poison qui a réduit les finances dans la situation allarmante dans laquelle elles sont aujourd'hui.

Quant à son Compte rendu, on lui a fait graces des eloges fastidieux qu'il fait de lui meme, et de l'affectation d'y introduire sa femme pour la louer; et l'on s'est epargné la peine d'examiner ses faux calculs. M. de Calonne a pris ce soin. Sans pouvoir se justifier luimeme, il a deja commencé à demasquer son antagoniste, et il promet de le demasquer mieux encore.

La necessité a rappellé cet homme dans la ministere; et il faut convenir qu'il est sans comparaison moins mauvais administrateur que ceux qui l'ont precedé. Je le compare à un intendant, qui, par son ordre, ne ruine pas tout-a-fait son maitre, mais qui s'enrichit à ses depens. La soif de la gloire doit lui donner de l'energie pour la chose publique, autant qu'il est possible. Il y a apparence que son ministere ne sera pas assez longue pour faire ressentir l'effet de ses faux principes d'administration: et si quelqu'un peut tenir en ordre les finances jusqu'à la reforme qu'on espere de l'assemblée des Etats generaux, c'est certainement lui qui en est seul capable. Cependant l'opinion publique sur ses talents et sa vertu n'est pas aussi grande qu'elle l'a été. Il est des personnes qui pretendent qu'elle est plus forte que jamais. On se trompe. Le desir ambitieux qu'il a toujours montré de rentrer dans la ministere, son ouvrage sur l'importance des opinions religieuses, et les memoires de M. de Calonne lui ont enlevé une grande partie de sa reputation.

(Source : *PTJ* 15 : 191-2. In TJ's hand. TJ omitted many accents, and misread the word *tailles* (taxes) from the document he was transcribing as *bailles* (waterbutts; silently corrected by editors of *PTJ*).

Translation: The character of M Neckar.

Nature gave this man a violent passion for glory, without granting him the qualities necessary to seek it by the right path. She endowed him with a fecund imagination, combined with a limited talent; which will always prevent him from delving deeper into subjects, combining them, and grasping the whole.

In Geneva, his native city, he had probably known the influence of wealth on the success of ambition, without needing the lesson of Paris, where he arrived at the age of about 28. He left his native land because of a personal affair of his brother, in which the city fathers behaved badly towards him; and which, moreover, by its circumstances, lends itself to ridicule. When he left, he assured his mother that he would make a large fortune in Paris. On his arrival he became a clerk with a salary of 600. livres, at the house of the banker Thelusson, a man hard with his dependents, to the point of indecency. This motivated the other clerks to quit Thelusson's service, but seems to have induced Neckar to remain. By bearing his master's brutality with servile resignation, at the same time as he gave his affairs the most constant attention, he rose to be his partner. A host of favourable circumstances, which required no out-of-the-ordinary skill to seize them, established for him a fortune of about 6. millions, before he entered the ministry. He owed a large part of his fortune to his connections with the Abbé Terray, from whose ignorance he profited unscrupulously. Terray's wealth, his profession, his table, and a virtuous, reasonable, and learned woman, helped Neckar make the acquaintance of many distinguished persons, among whom were several men of letters, who praised his knowledge and wit.

The true and wise principles which Turgot wished to substitute for the abuses of the [previous] administration having been ill-received, Neckar seized this opportunity of flattering ignorance and malignity, by publishing his work against the freedom of the grain trade. Two years before, he had published a eulogy of Colbert. Both of these publications reflect the banker, and not at all the statesman. His aim was to impress public opinion. He succeeded very well and was not delicate in his choice of method. Raised to office by a cabal that did not understand finance, he began by refusing the salary of his position. He affected a spirit of economy and austerity which he imposed even on foreign nations, and showed that war could be waged without imposing new taxes, or so he boasted. Actually, they were increased under his administration by about twenty millions, partly by a secret increase of the *tailles* [a tax from which nobles and clergy were exempt] and of the capitation, partly by some checks of the twentieths [another tax], partly by the natural increase of the produce of the duties on consumption, on account of the successive increase of population, wealth, and expensive tastes.

All this gave him an astonishing reputation, and his fall confirmed it. Nobody considered that, in the short duration of his ministry, he had more than doubled his fortune. He did not plunder the treasury; he had too much wit and pride for that foolish maneuver. But he raised the funds for the war by loans, and by costly banking operations, and remained a partner in the house to which he resorted for the greater part of his negotiations. People failed to realize that his great principles of economy were nothing but tinsel, and that the loans taken out to avoid levying taxes were the source of the poison which reduced the finances to the alarming situation in which they are today.

As to his *Compte Rendu* [Statement of Accounts], people have excused him for the tedious praise he makes of himself, and for the affectation of introducing his wife into it to praise it, to the exclusion of troubling to examine his false calculations. M. de Calonne took this care. Without being able to justify himself, he has already begun to unmask his antagonist, and he promises to unmask him even further.

Necessity recalled this man to the ministry; and it must be admitted that he is without comparison a better administrator than those who preceded him. I compare him to a steward who, by putting things in order, does not altogether ruin his master, but who enriches himself at his expense. The thirst for glory must give him energy for public affairs, as much as possible. It seems that his ministry will not be long enough to make the effect of his false principles of administration felt. If anyone can keep the finances in order until the reform which is hoped for from the assembly of the States-General, certainly he alone is capable of doing so. However, public opinion of his talents and virtue is not as favorable as it once was. Some people claim that it is more favorable than ever. They are wrong. The ambition which he has always shown to enter the ministry, his work on the importance of religious opinions, and the memoirs of M. de Calonne have robbed him of a great part of his reputation.

[my translation]